

ADSL network operations and management system 100 of Figure 1 to calculate the deterministic configuration variable VCI in accordance with the present invention. Processing begins at block 300 and proceeds to block 310 where a check is performed to determine if the sequence number (n) is less than a pre-defined number X. The pre-defined number X reflects the physical limitations of the cooperating ADSL components. In one example, an ADSL network may comprise a CO DSLAM that is capable of representing VCI values as 10-bit integers (0-1023), and values 0-32 may be reserved for system use. In this case, 991 VCI values (the number of integers between 33 and 1023, inclusive) are available for assignment as VCI values for subscriber PVCs. Moreover, the exemplary ADSL network comprises RAM network components each having eight input ports. Under these parameters, the pre-defined number X is 123 (i.e. 991 subscribers divided by 8). As will be seen below, X represents the condition that the VCI numbers must be recycled after 123 8-port RAMs are connected to the DSLAM, because 8 input ports multiplied by 124 RAMs is greater than 991, and thus there would be insufficient numbers in the range 33-1023 to handle a 124<sup>th</sup> 8-port RAM. If the sequence number is less than the pre-defined number X, processing proceeds to block 320 where the VCI value is calculated using the equation:

$$VCI = 33 + (n-1) * 8 + Mpos,$$

where: n = CO DSLAM Sequence Number ( i.e. connection position of contributing RAM on CO DSLAM)

Mpos = ADSL Port Position on Contributing RAM

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Processing then proceeds to block 350 and therefrom.

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Please replace the paragraph beginning at page 14, Line 16, with the following rewritten paragraph:

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Returning now to block 310, if it is determined that n is not less than X, processing proceeds to block 330 where a check is performed to determine if the sequence number, n, is greater than or equal to the pre-determined parameter X. If the check proves to be negative, processing terminates at block 360. However, if the sequence number is greater than or equal to the pre-determined parameter X, processing proceeds to block 340 where the VIC value is calculated using the following formula:

*A<sup>2</sup>*

$$VCI = 33 + \lceil mod ((n-1)/(X-1))-1 * 8 + Mpos,$$

where: n = CO DSLAM Sequence Number

X = Pre-defined ADSL Network Physical Parameter

Mpos = ADSL Port Position on Contributing RAM

It will be observed that block 340 implements the "recycling" of VCI values. As noted in the example above, if there are only 991 available VCI values, then it is not possible to assign a unique VCI value to subscribers connected to RAMs in excess of 123 (i.e., for a 124<sup>th</sup> RAM, the calculation would be  $33 + (124-1)*8 + Mpos$ .  $33+(124-1)*8 = 1017$ , which means that, according